

Figure 2

Slice 1 ( $g/s_1$ )	Slice 1 ( $v/s_1$ )
Slice 2 ( $g/s_2$ )	Slice 2 ( $v/s_2$ )
Slice N ( $g/s_N$ )	Slice N ( $v/s_N$ )

102

7101

FIGURE 3

216

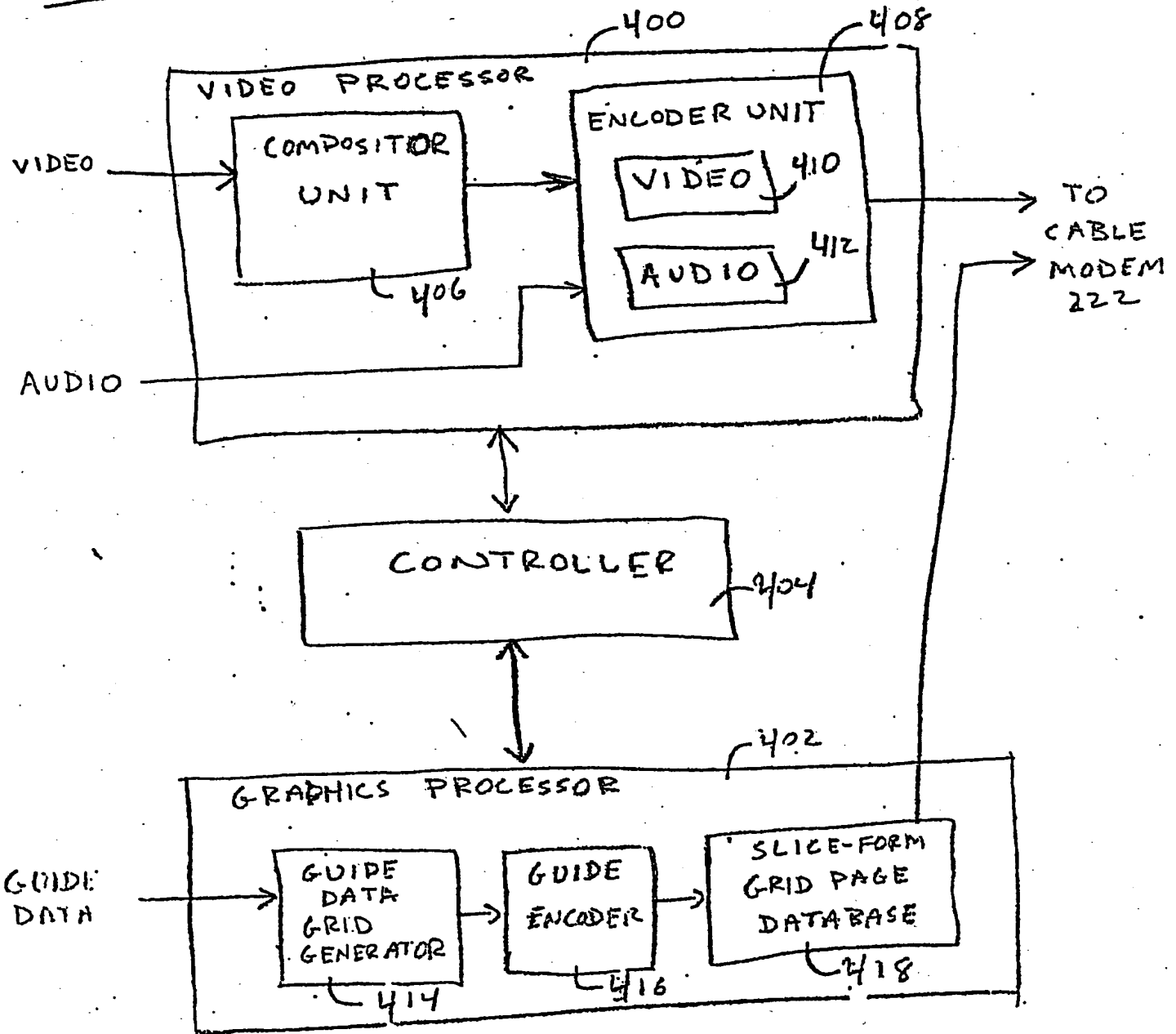


FIGURE 4

228

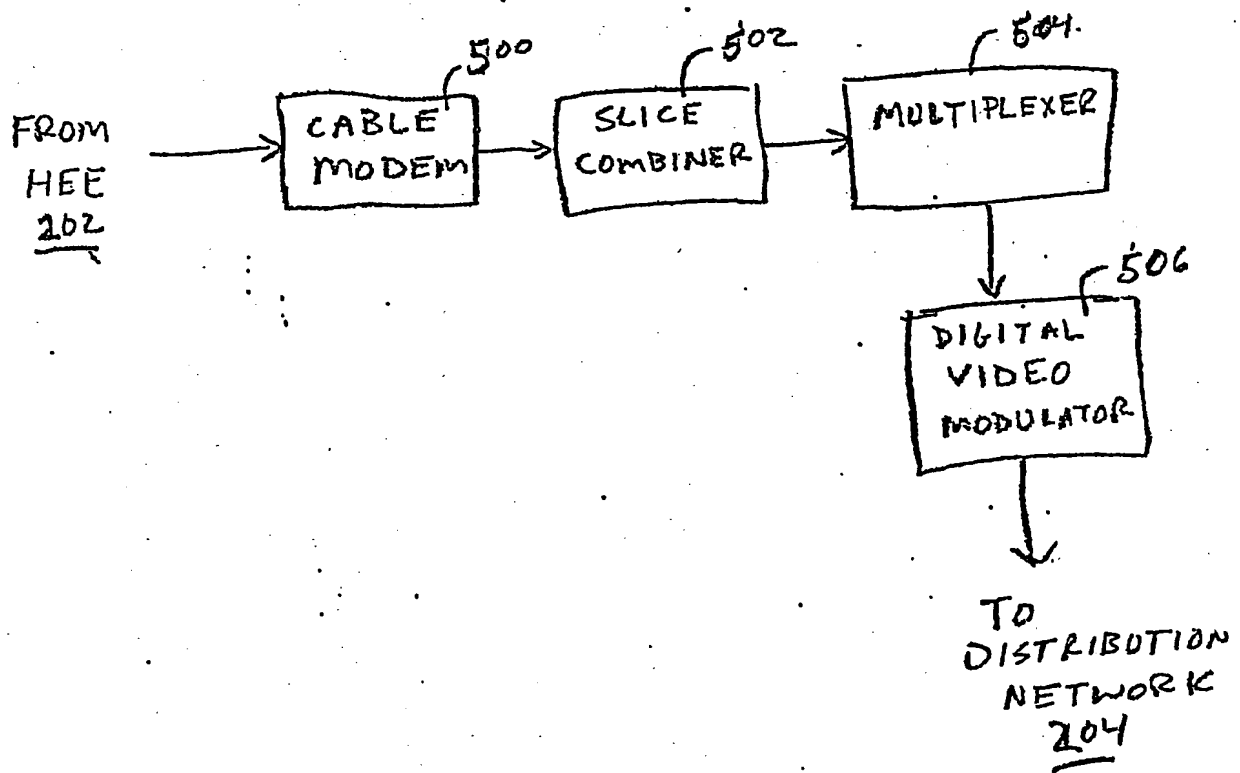


FIGURE 5

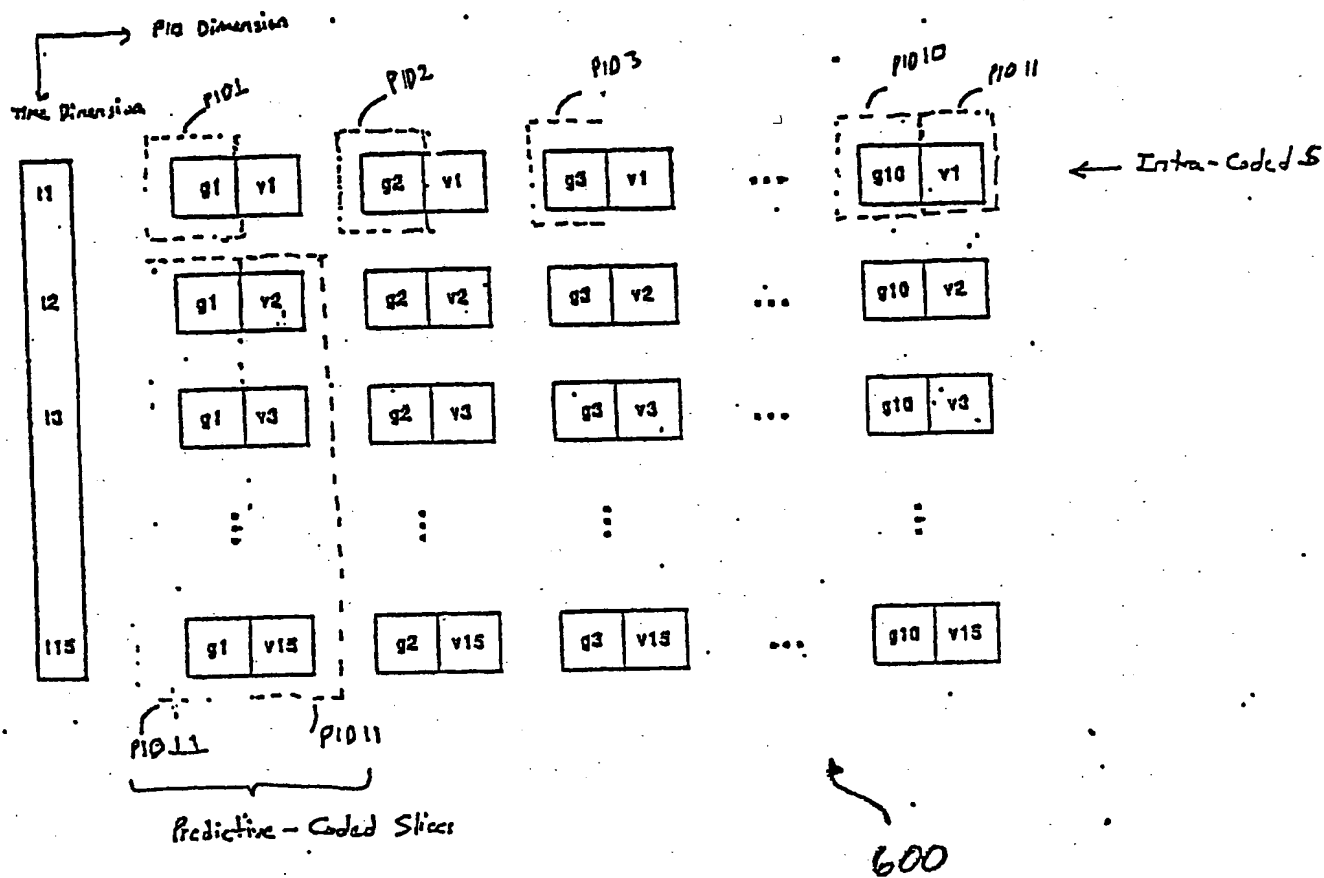


Figure 8

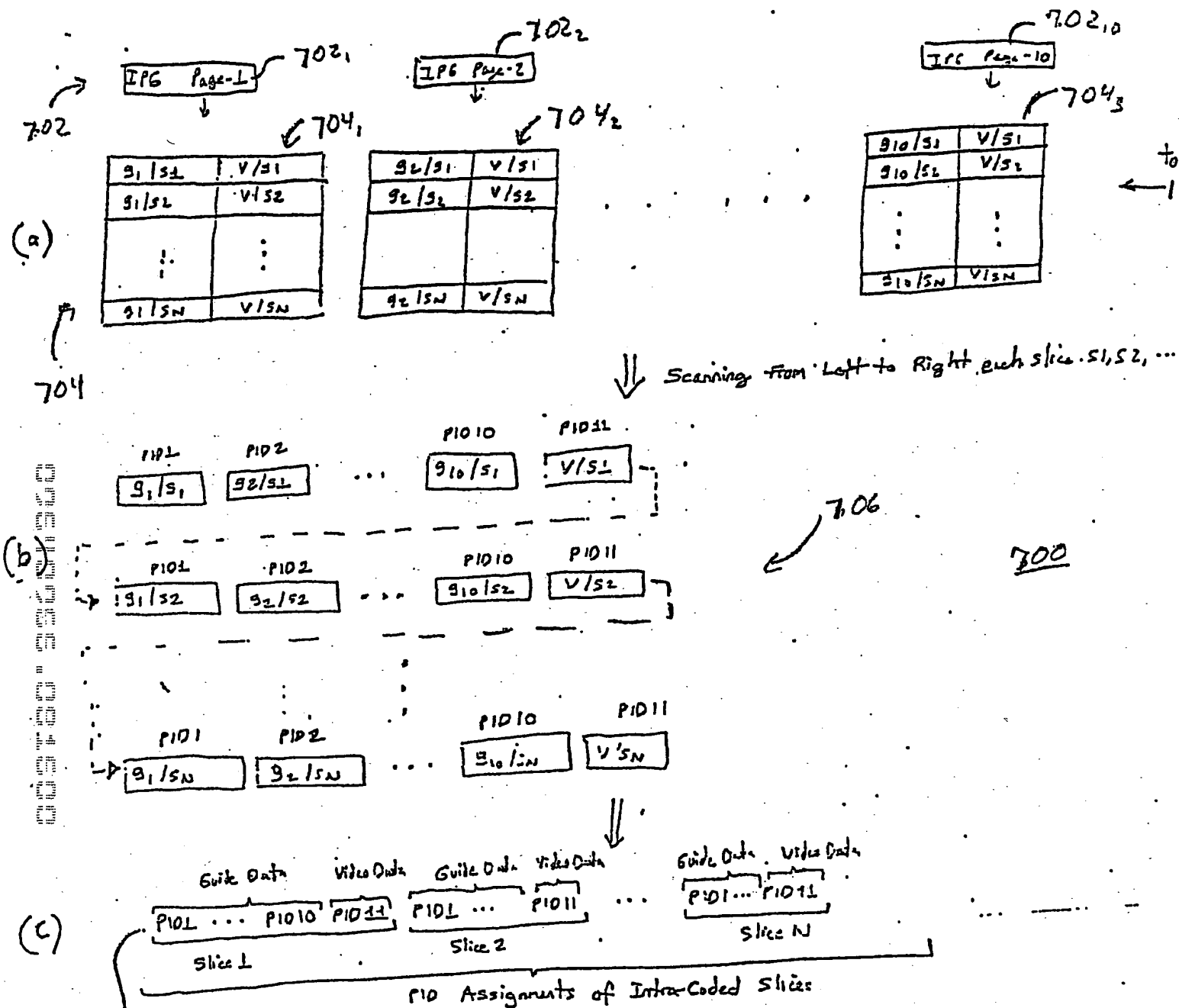
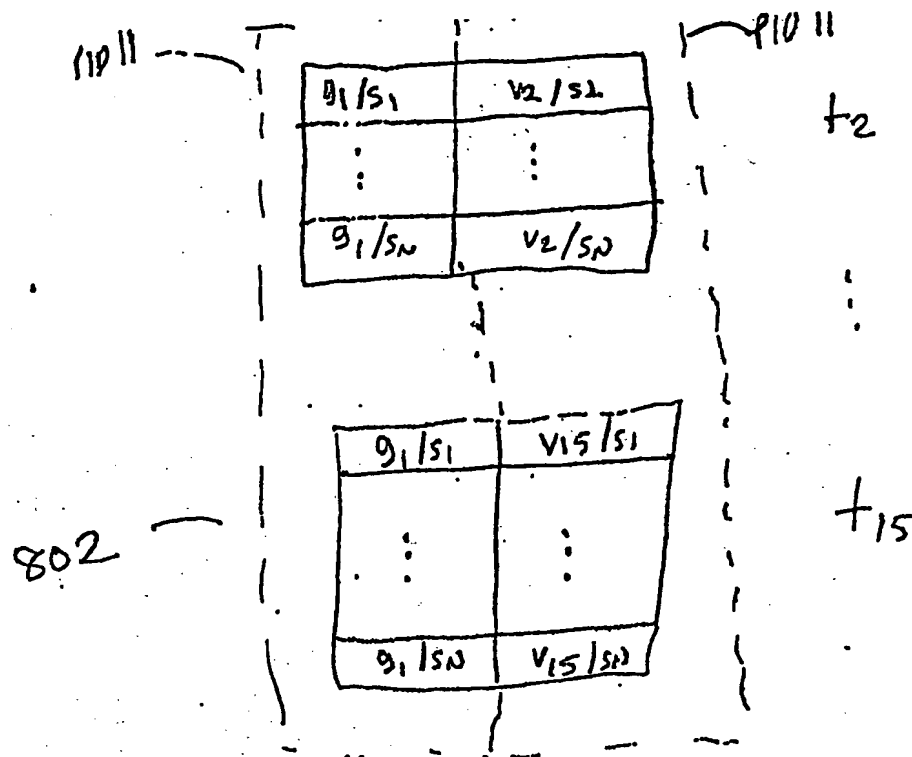
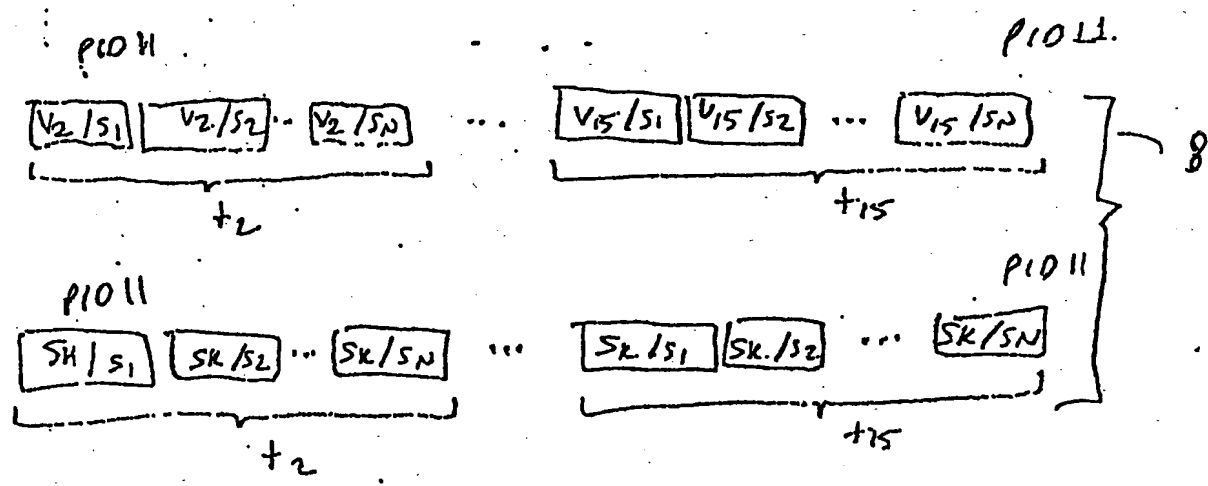


Figure 7



Scanning Video Slices  
From left to right  
top to bottom



Skipped  
Guide  
Slices

800

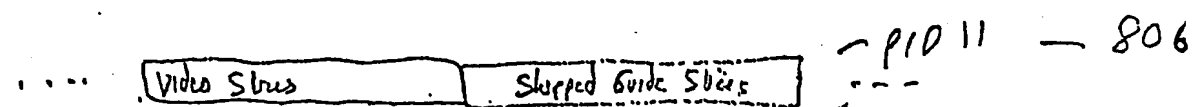
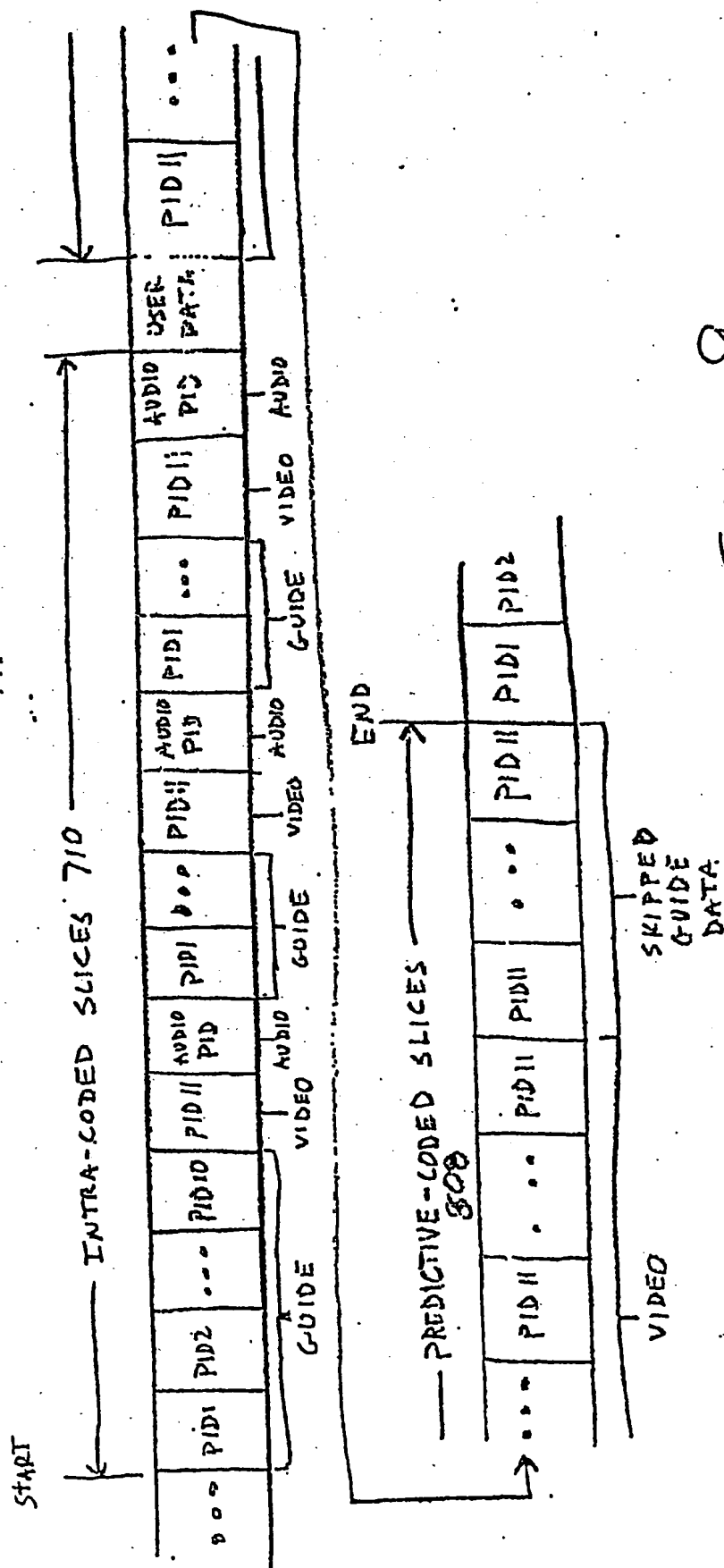


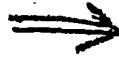
Figure 8



Figure 9



$g_1/s_1$	$v_2/s_1$
$g_1/s_N$	$v_2/s_N$



$g_k/s_1$	$v_2/s_1$	$g_k/s_2$	$v_2/s_2$	...	$g_k/s_N$	$v_2/s_N$
-----------	-----------	-----------	-----------	-----	-----------	-----------

--	--	--	--	--	--	--

--	--	--	--	--	--	--

$g_k/s_1$	$v_1/s_1$	$g_k/s_2$	$v_1/s_2$	...	$g_k/s_N$	$v_1/s_N$
-----------	-----------	-----------	-----------	-----	-----------	-----------



$g_k/s_1$	$v_2/s_1$	$g_k/s_2$	$v_2/s_2$	...	$g_k/s_N$	$v_1/s_N$
-----------	-----------	-----------	-----------	-----	-----------	-----------

$g_1/s_1$	$v_1/s_1$
$g_1/s_N$	$v_1/s_N$

1000

Figure 10

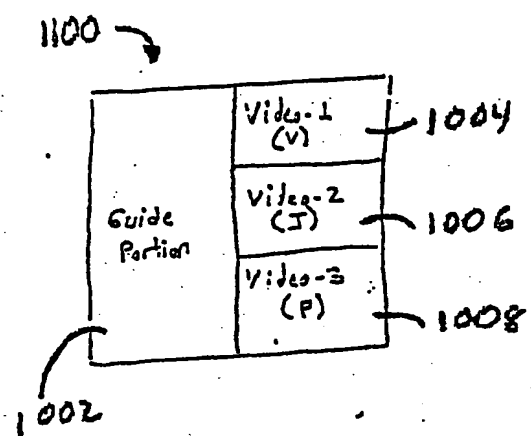


FIGURE 11A

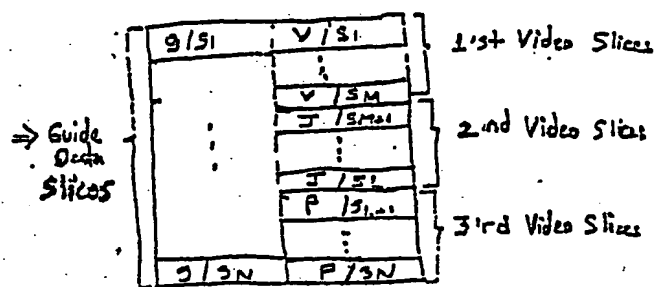


Figure 11B

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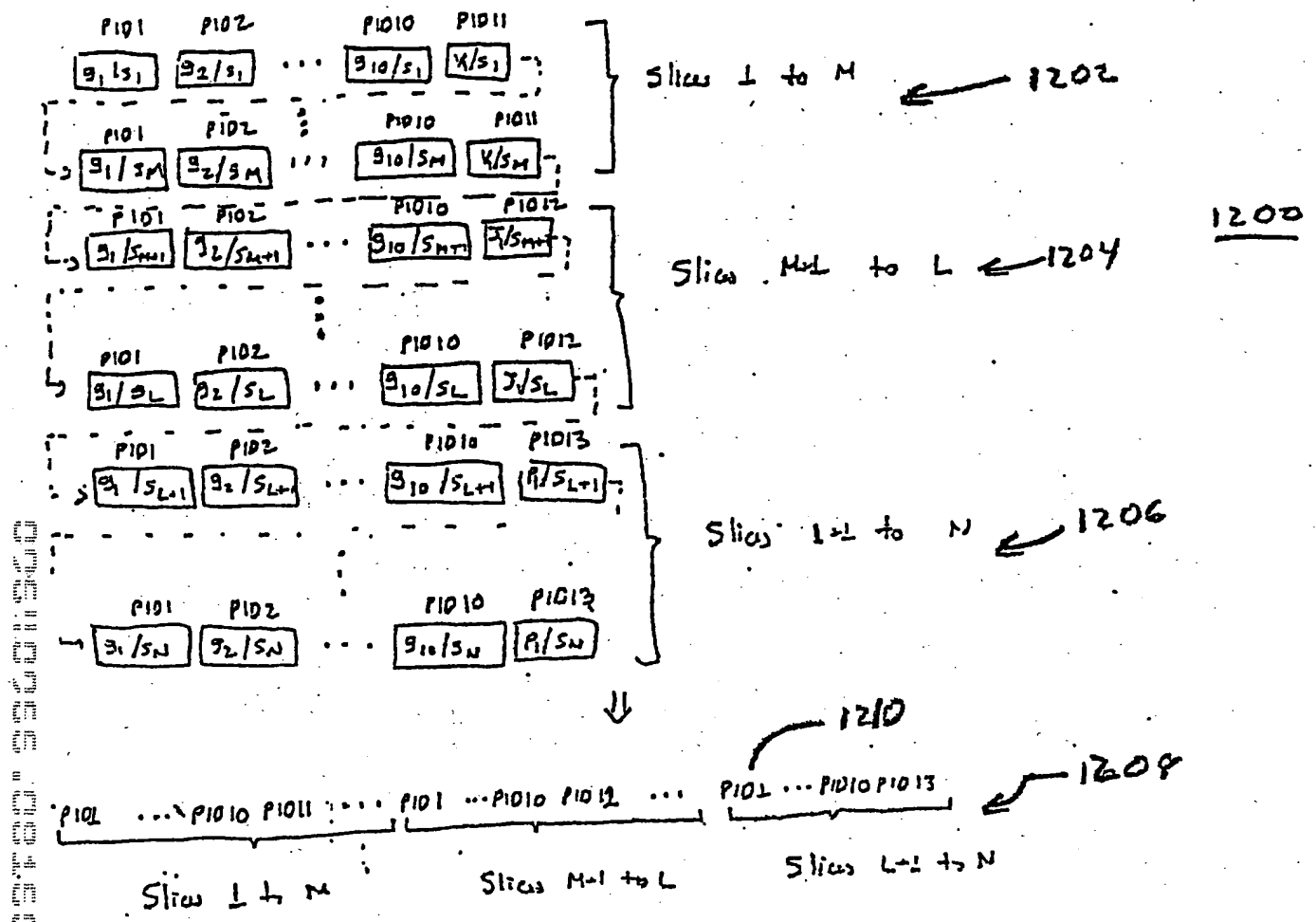


Figure 12

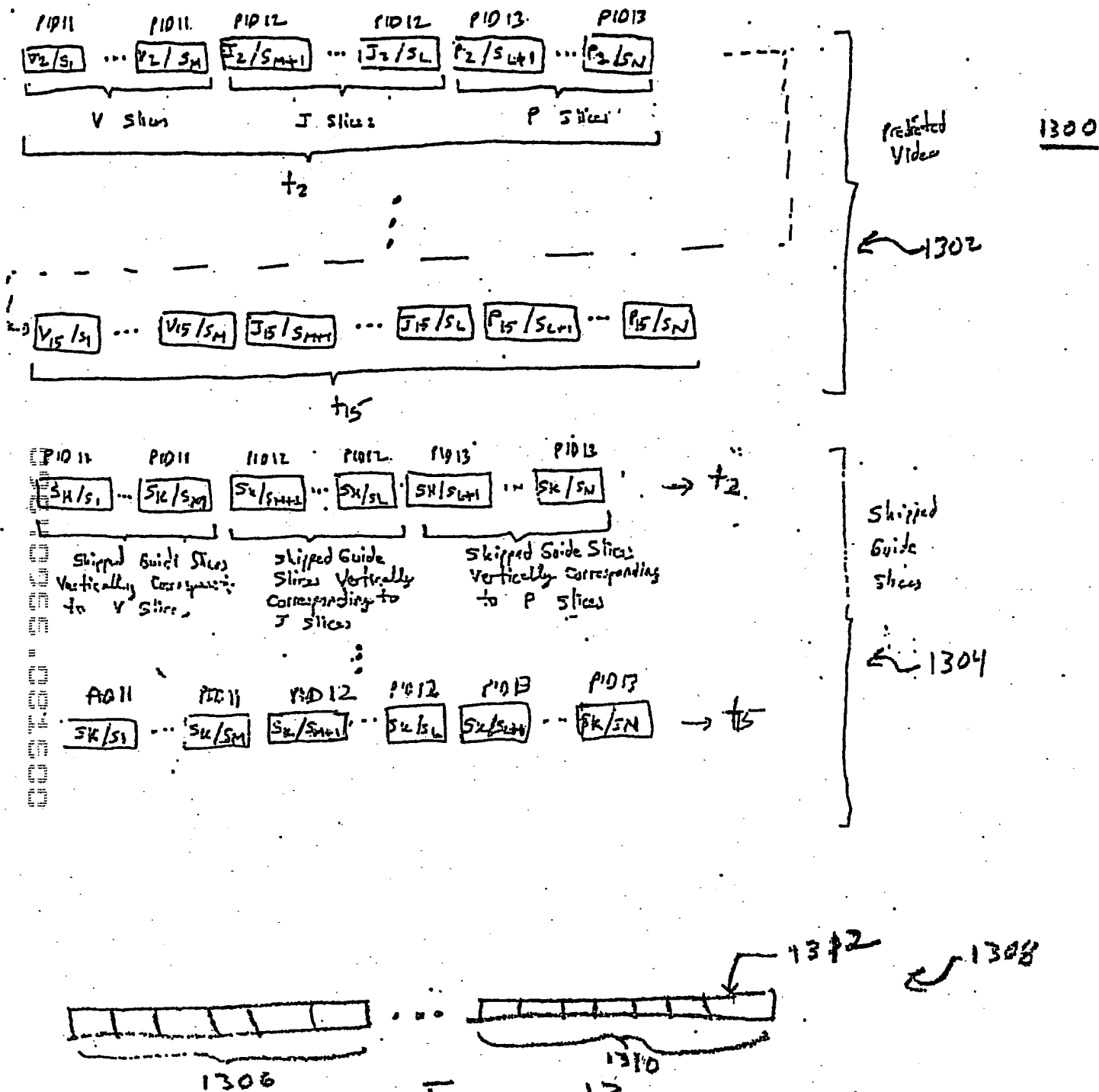


Figure 13

[illegible]

Figure 14

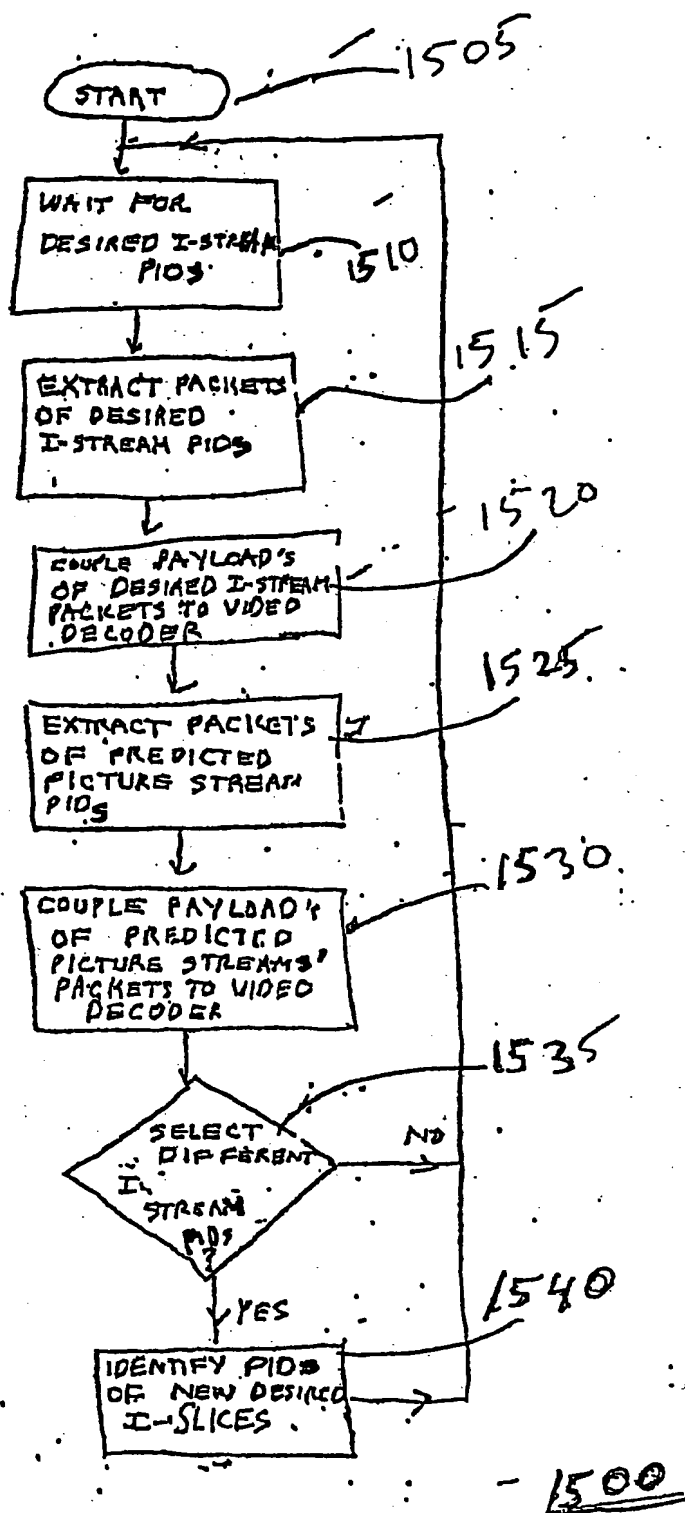


Figure 15

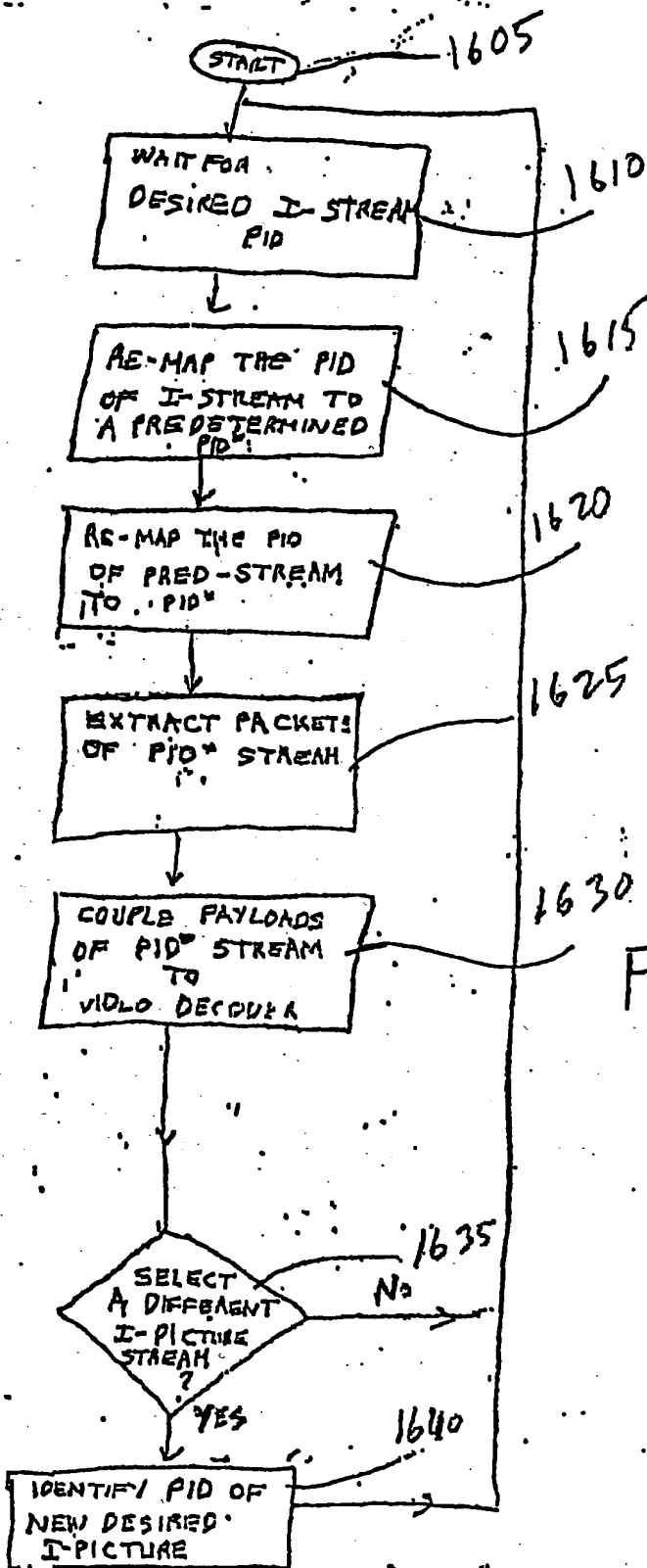


Figure 16

2025 RELEASE UNDER E.O. 14176



Figure 17



1800

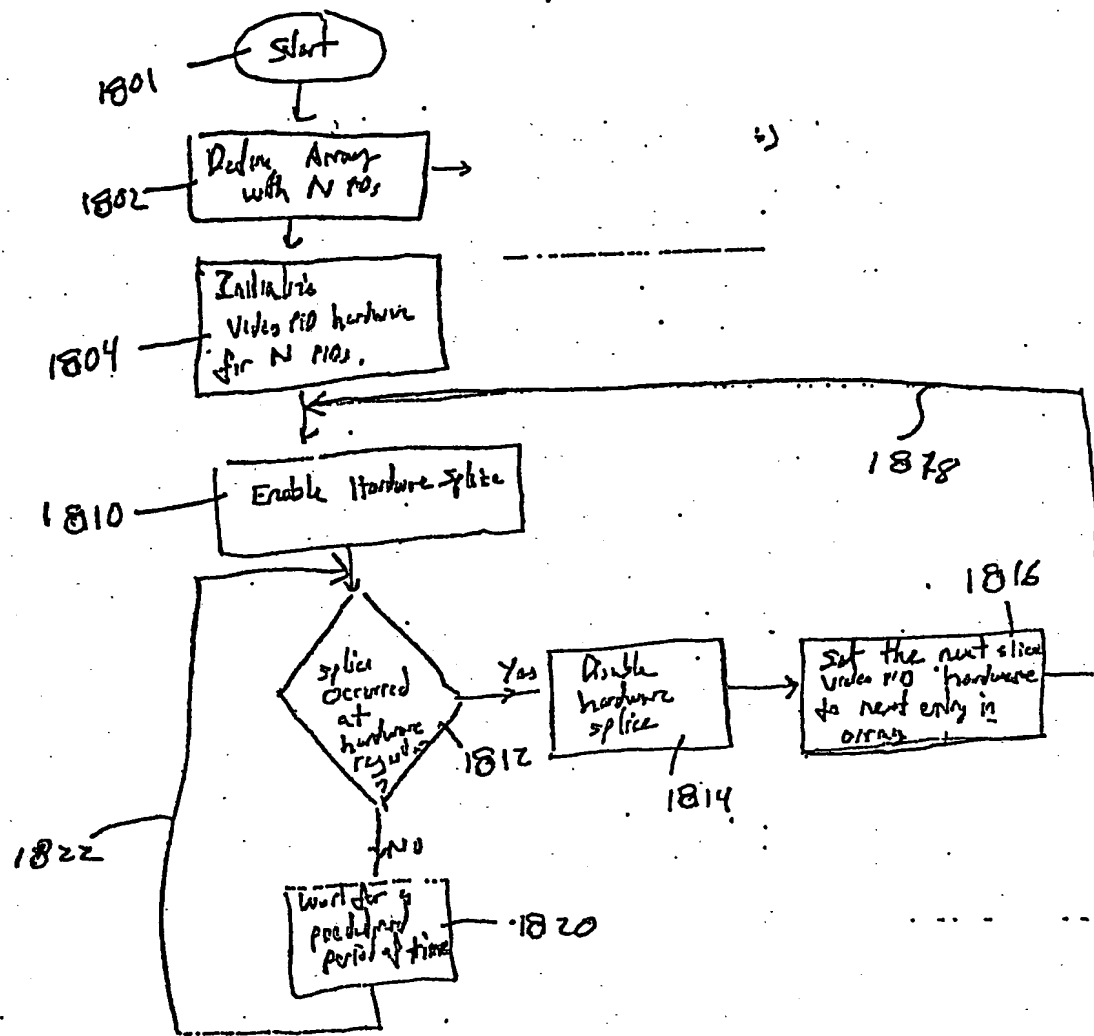


Figure 18

time =  $t_1$

003 000 330 000

<u>PID1</u>	<u>PID2</u>	<u>PID3</u>	...	<u>PID9</u>	<u>PID10</u>	<u>PID11</u>	<u>PID12</u>	<u>PID13</u>
$g1/s1$	$g2/s1$	$g3/s1$	...	$g9/s1$	$g10/s1$	$v1/s1$	$m1/s1$	$k1/s1$
$\hookrightarrow g1/s2$	$g2/s2$	$g3/s2$	...	$g9/s2$	$g10/s2$	$v1/s2$	$m1/s2$	$k1/s2$
$\hookrightarrow g1/s3$	$g2/s3$	$g3/s3$	...	$g9/s3$	$g10/s3$	$v1/s3$	$m1/s3$	$k1/s3$
...	...	...	...	...	...	...	...	...
$\hookrightarrow g1/sN$	$g2/sN$	$g3/sN$	...	$g9/sN$	$g10/sN$	$v1/sN$	$m1/sN$	$k1/sN$

1900

Intra-coded Guide and Video

Fig. 19

<u>m2</u>	<u>PID 11</u>	<u>PID 12</u>	<u>PID 13</u>	<u>PID 14</u>	<u>PID 15</u>	<u>PID 16</u>	<u>PID 17</u>	<u>PID 18</u>	<u>PID 19</u>	<u>PID 20</u>	<u>PID 21</u>	<u>PID 22</u>	<u>PID 23</u>	<u>PID 24</u>
x2	V2/S1	M2/S1	K2/S1	V2/S2	M2/S2	K2/S2	V2/S2	M2/S2	K2/S2	V2/S2	M2/S2	K2/S2	V2/S2	M2/S2
x3	V3/S1	M3/S1	K3/S1	V3/S2	M3/S2	K3/S2	V3/S2	M3/S2	K3/S2	V3/S2	M3/S2	K3/S2	V3/S2	M3/S2
x4	V4/S1	M4/S1	K4/S1	V4/S2	M4/S2	K4/S2	V4/S2	M4/S2	K4/S2	V4/S2	M4/S2	K4/S2	V4/S2	M4/S2
x5	V5/S1	M5/S1	K5/S1	V5/S2	M5/S2	K5/S2	V5/S2	M5/S2	K5/S2	V5/S2	M5/S2	K5/S2	V5/S2	M5/S2
x15	V15/S1	M15/S1	K15/S1	V15/S2	M15/S2	K15/S2	V15/S2	M15/S2	K15/S2	V15/S2	M15/S2	K15/S2	V15/S2	M15/S2

Predicted Video 2000

Fig. 20

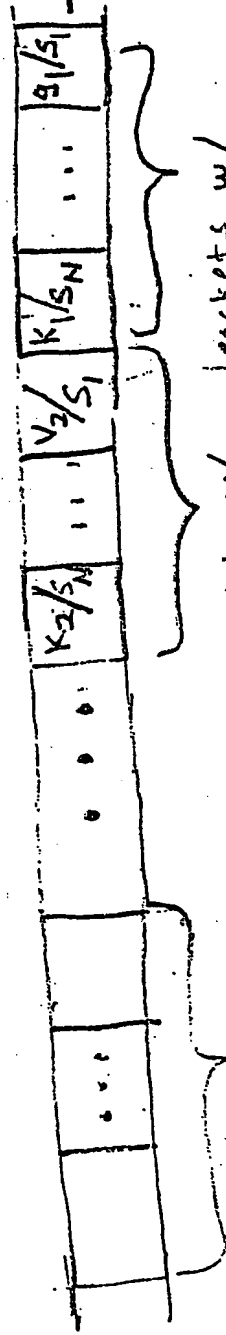
time	PID11	PID12	PID13	PID11	PID12	PID13	PID11	PID12	PID13
$t_2$	SK/S1	SK/S1	SK/S1	SK/S2	SK/S2	SK/S2	SK/SN	SK/SN	SK/SN
$t_3$	SK/S1	SK/S1	SK/S1	SK/S2	SK/S2	SK/S2	SK/SN	SK/SN	SK/SN
$t_4$	SK/S1	SK/S1	SK/S1	SK/S2	SK/S2	SK/S2	SK/SN	SK/SN	SK/SN
$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$
$t_{15}$	SK/S1	SK/S1	SK/S1	SK/S2	SK/S2	SK/S2	SK/SN	SK/SN	SK/SN

Skipped Guide

Fig. 21

# Video and Graphics

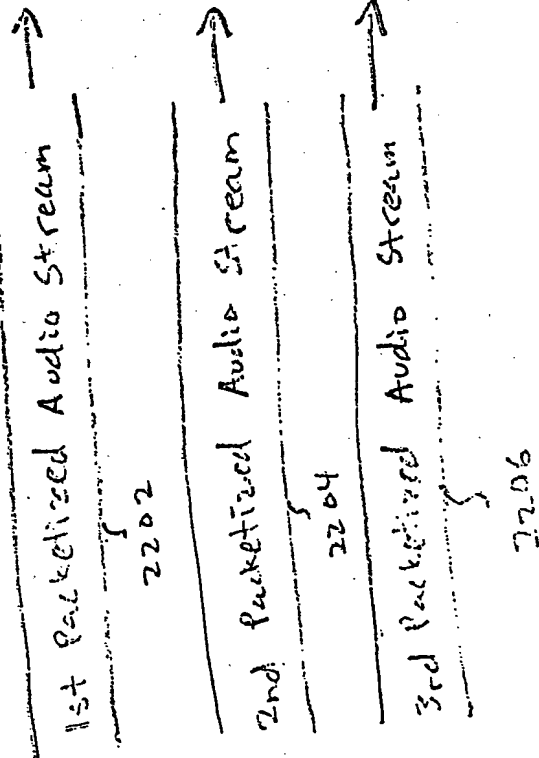
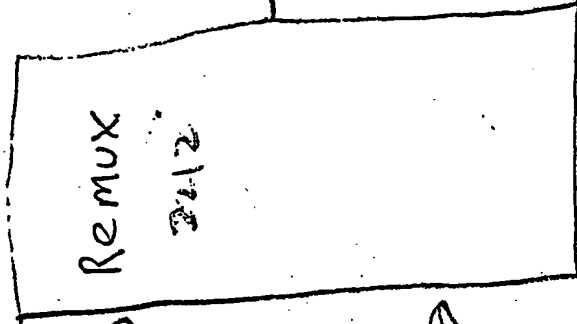
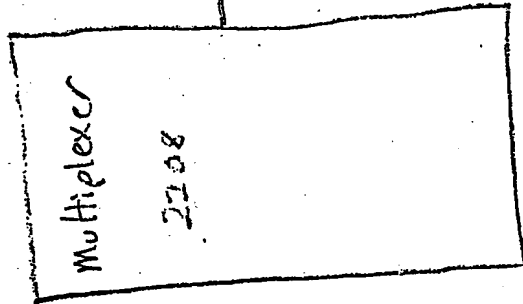
## 2214



packets w/  
PID 11 to PID 13  
for predictive  
video and skipped  
guide at  $K_2$  at time  $t_1$

packets w/  
PID 11 to PID 13  
for predictive  
video and skipped  
guide at  $K_1$   
2115 2015

2102 2002 1900



Transport  
Stream

Fig. 22

003450" 32601500

$O_1$	$O_2$	$O_3$
$O_4$	$O_5$	$O_6$
$O_7$	$O_8$	$O_9$

objects

(a)

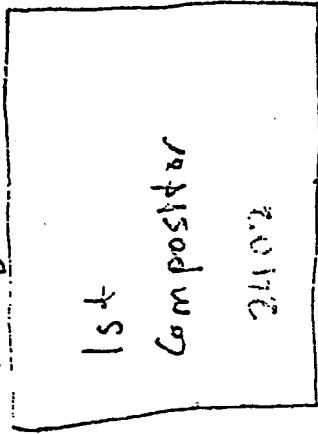
$O_1/S_1$	$O_2/S_1$	$O_3/S_1$
$O_1/S_2$	$O_2/S_2$	$O_3/S_2$
$O_1/S_3$	$O_2/S_3$	$O_3/S_3$
$O_1/S_4$	$O_2/S_4$	$O_3/S_4$
$O_1/S_5$	$O_2/S_5$	$O_3/S_5$
$O_1/S_6$	$O_2/S_6$	$O_3/S_6$
$O_1/S_7$	$O_2/S_7$	$O_3/S_7$
$O_1/S_8$	$O_2/S_8$	$O_3/S_8$
$O_1/S_9$	$O_2/S_9$	$O_3/S_9$
$O_1/S_{10}$	$O_2/S_{10}$	$O_3/S_{10}$
$O_1/S_{11}$	$O_2/S_{11}$	$O_3/S_{11}$
$O_1/S_{12}$	$O_2/S_{12}$	$O_3/S_{12}$
$O_1/S_{13}$	$O_2/S_{13}$	$O_3/S_{13}$
$O_1/S_{14}$	$O_2/S_{14}$	$O_3/S_{14}$
$O_1/S_{15}$	$O_2/S_{15}$	$O_3/S_{15}$
$O_1/S_{16}$	$O_2/S_{16}$	$O_3/S_{16}$
$O_1/S_{17}$	$O_2/S_{17}$	$O_3/S_{17}$
$O_1/S_{18}$	$O_2/S_{18}$	$O_3/S_{18}$
$O_1/S_{19}$	$O_2/S_{19}$	$O_3/S_{19}$
$O_1/S_{20}$	$O_2/S_{20}$	$O_3/S_{20}$
$O_1/S_{21}$	$O_2/S_{21}$	$O_3/S_{21}$
$O_1/S_{22}$	$O_2/S_{22}$	$O_3/S_{22}$
$O_1/S_{23}$	$O_2/S_{23}$	$O_3/S_{23}$
$O_1/S_{24}$	$O_2/S_{24}$	$O_3/S_{24}$
$O_1/S_{25}$	$O_2/S_{25}$	$O_3/S_{25}$
$O_1/S_{26}$	$O_2/S_{26}$	$O_3/S_{26}$
$O_1/S_{27}$	$O_2/S_{27}$	$O_3/S_{27}$
$O_1/S_{28}$	$O_2/S_{28}$	$O_3/S_{28}$
$O_1/S_{29}$	$O_2/S_{29}$	$O_3/S_{29}$
$O_1/S_{30}$	$O_2/S_{30}$	$O_3/S_{30}$
$O_1/S_{31}$	$O_2/S_{31}$	$O_3/S_{31}$
$O_1/S_{32}$	$O_2/S_{32}$	$O_3/S_{32}$
$O_1/S_{33}$	$O_2/S_{33}$	$O_3/S_{33}$
$O_1/S_{34}$	$O_2/S_{34}$	$O_3/S_{34}$
$O_1/S_{35}$	$O_2/S_{35}$	$O_3/S_{35}$
$O_1/S_{36}$	$O_2/S_{36}$	$O_3/S_{36}$
$O_1/S_{37}$	$O_2/S_{37}$	$O_3/S_{37}$
$O_1/S_{38}$	$O_2/S_{38}$	$O_3/S_{38}$
$O_1/S_{39}$	$O_2/S_{39}$	$O_3/S_{39}$
$O_1/S_{40}$	$O_2/S_{40}$	$O_3/S_{40}$
$O_1/S_{41}$	$O_2/S_{41}$	$O_3/S_{41}$
$O_1/S_{42}$	$O_2/S_{42}$	$O_3/S_{42}$
$O_1/S_{43}$	$O_2/S_{43}$	$O_3/S_{43}$
$O_1/S_{44}$	$O_2/S_{44}$	$O_3/S_{44}$
$O_1/S_{45}$	$O_2/S_{45}$	$O_3/S_{45}$
$O_1/S_{46}$	$O_2/S_{46}$	$O_3/S_{46}$
$O_1/S_{47}$	$O_2/S_{47}$	$O_3/S_{47}$
$O_1/S_{48}$	$O_2/S_{48}$	$O_3/S_{48}$
$O_1/S_{49}$	$O_2/S_{49}$	$O_3/S_{49}$
$O_1/S_{50}$	$O_2/S_{50}$	$O_3/S_{50}$
$O_1/S_{51}$	$O_2/S_{51}$	$O_3/S_{51}$
$O_1/S_{52}$	$O_2/S_{52}$	$O_3/S_{52}$
$O_1/S_{53}$	$O_2/S_{53}$	$O_3/S_{53}$
$O_1/S_{54}$	$O_2/S_{54}$	$O_3/S_{54}$
$O_1/S_{55}$	$O_2/S_{55}$	$O_3/S_{55}$
$O_1/S_{56}$	$O_2/S_{56}$	$O_3/S_{56}$
$O_1/S_{57}$	$O_2/S_{57}$	$O_3/S_{57}$
$O_1/S_{58}$	$O_2/S_{58}$	$O_3/S_{58}$
$O_1/S_{59}$	$O_2/S_{59}$	$O_3/S_{59}$
$O_1/S_{60}$	$O_2/S_{60}$	$O_3/S_{60}$
$O_1/S_{61}$	$O_2/S_{61}$	$O_3/S_{61}$
$O_1/S_{62}$	$O_2/S_{62}$	$O_3/S_{62}$
$O_1/S_{63}$	$O_2/S_{63}$	$O_3/S_{63}$
$O_1/S_{64}$	$O_2/S_{64}$	$O_3/S_{64}$
$O_1/S_{65}$	$O_2/S_{65}$	$O_3/S_{65}$
$O_1/S_{66}$	$O_2/S_{66}$	$O_3/S_{66}$
$O_1/S_{67}$	$O_2/S_{67}$	$O_3/S_{67}$
$O_1/S_{68}$	$O_2/S_{68}$	$O_3/S_{68}$
$O_1/S_{69}$	$O_2/S_{69}$	$O_3/S_{69}$
$O_1/S_{70}$	$O_2/S_{70}$	$O_3/S_{70}$
$O_1/S_{71}$	$O_2/S_{71}$	$O_3/S_{71}$
$O_1/S_{72}$	$O_2/S_{72}$	$O_3/S_{72}$
$O_1/S_{73}$	$O_2/S_{73}$	$O_3/S_{73}$
$O_1/S_{74}$	$O_2/S_{74}$	$O_3/S_{74}$
$O_1/S_{75}$	$O_2/S_{75}$	$O_3/S_{75}$
$O_1/S_{76}$	$O_2/S_{76}$	$O_3/S_{76}$
$O_1/S_{77}$	$O_2/S_{77}$	$O_3/S_{77}$
$O_1/S_{78}$	$O_2/S_{78}$	$O_3/S_{78}$
$O_1/S_{79}$	$O_2/S_{79}$	$O_3/S_{79}$
$O_1/S_{80}$	$O_2/S_{80}$	$O_3/S_{80}$
$O_1/S_{81}$	$O_2/S_{81}$	$O_3/S_{81}$
$O_1/S_{82}$	$O_2/S_{82}$	$O_3/S_{82}$
$O_1/S_{83}$	$O_2/S_{83}$	$O_3/S_{83}$
$O_1/S_{84}$	$O_2/S_{84}$	$O_3/S_{84}$
$O_1/S_{85}$	$O_2/S_{85}$	$O_3/S_{85}$
$O_1/S_{86}$	$O_2/S_{86}$	$O_3/S_{86}$
$O_1/S_{87}$	$O_2/S_{87}$	$O_3/S_{87}$
$O_1/S_{88}$	$O_2/S_{88}$	$O_3/S_{88}$
$O_1/S_{89}$	$O_2/S_{89}$	$O_3/S_{89}$
$O_1/S_{90}$	$O_2/S_{90}$	$O_3/S_{90}$
$O_1/S_{91}$	$O_2/S_{91}$	$O_3/S_{91}$
$O_1/S_{92}$	$O_2/S_{92}$	$O_3/S_{92}$
$O_1/S_{93}$	$O_2/S_{93}$	$O_3/S_{93}$
$O_1/S_{94}$	$O_2/S_{94}$	$O_3/S_{94}$
$O_1/S_{95}$	$O_2/S_{95}$	$O_3/S_{95}$
$O_1/S_{96}$	$O_2/S_{96}$	$O_3/S_{96}$
$O_1/S_{97}$	$O_2/S_{97}$	$O_3/S_{97}$
$O_1/S_{98}$	$O_2/S_{98}$	$O_3/S_{98}$
$O_1/S_{99}$	$O_2/S_{99}$	$O_3/S_{99}$
$O_1/S_{100}$	$O_2/S_{100}$	$O_3/S_{100}$

slice-based partitioning

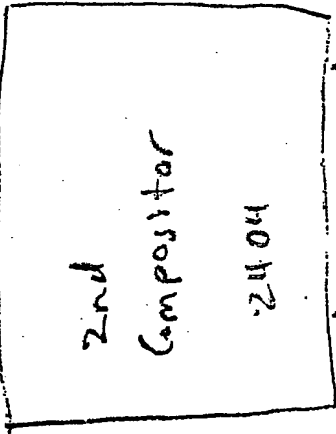
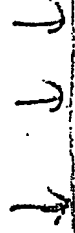
(b)

Fig. 23

1st set of  
3 video inputs



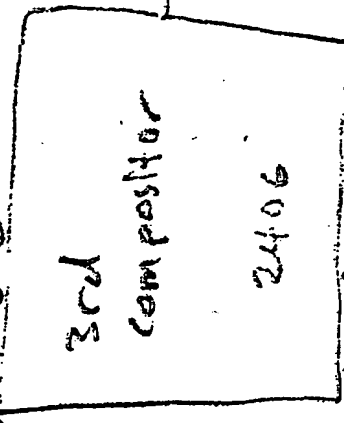
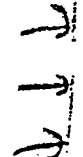
first  
composite  
video  
signal  
2403



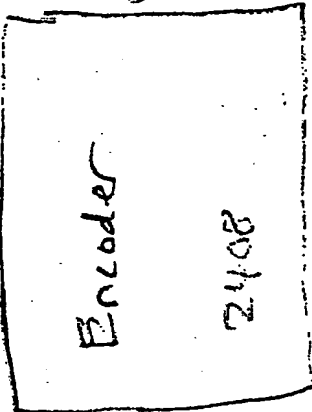
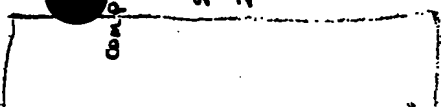
second  
composite  
video  
signal  
2405



3rd set of  
3 video inputs



2406



video  
object  
stream  
2409

compos  
video  
signal  
2407

Cascade Compositor

Fig. 24



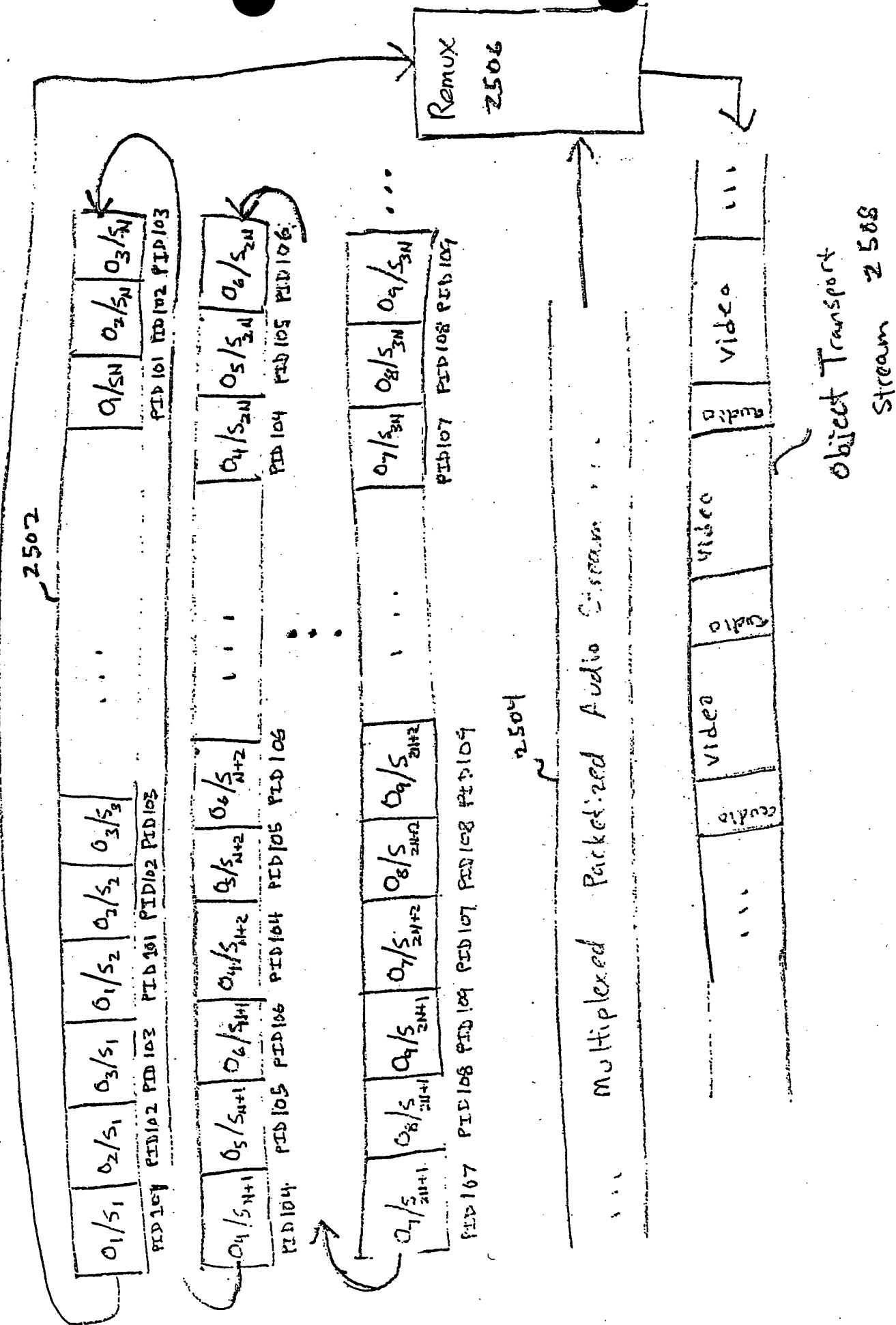


Fig. 25

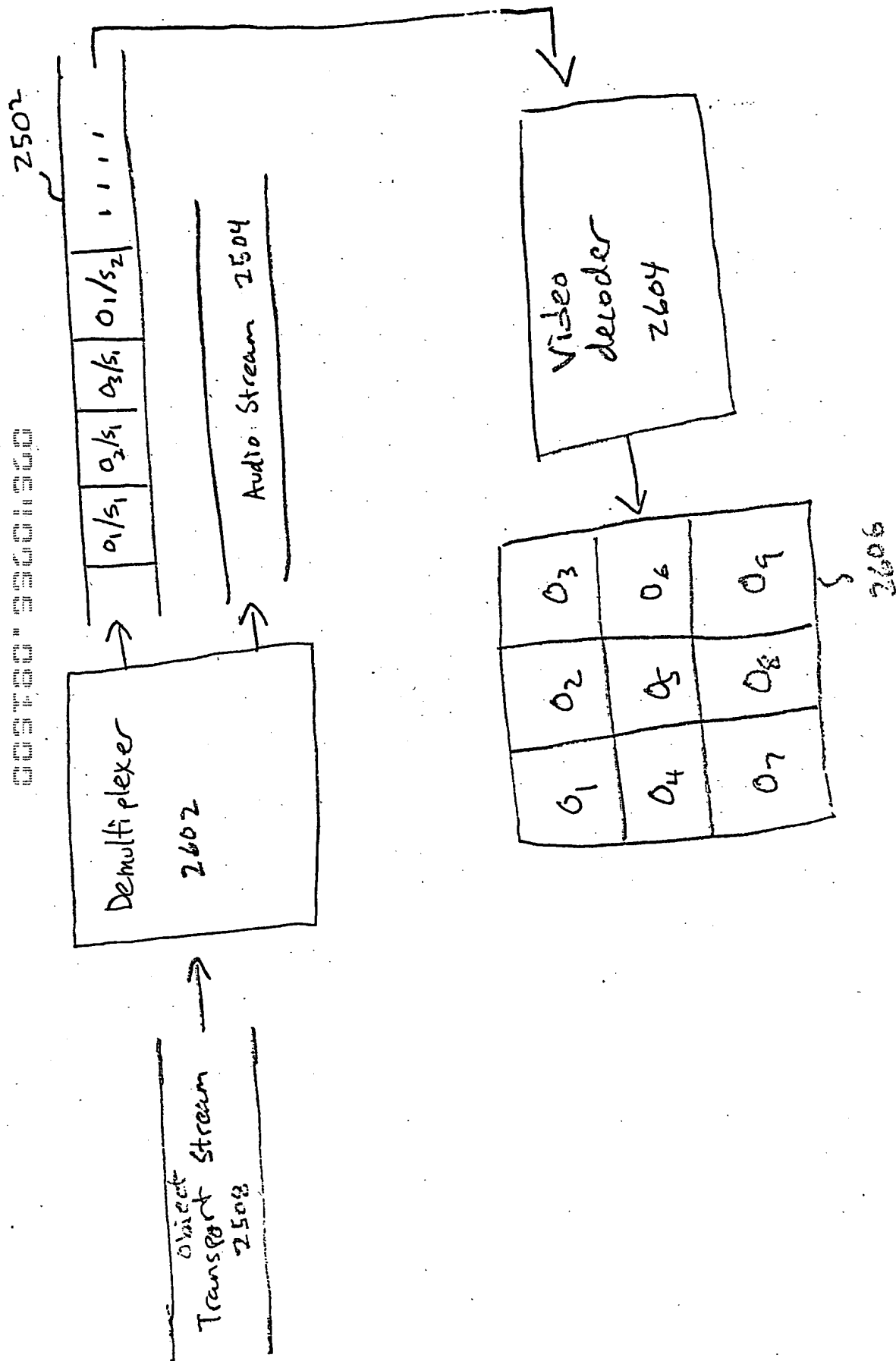


Fig. 26

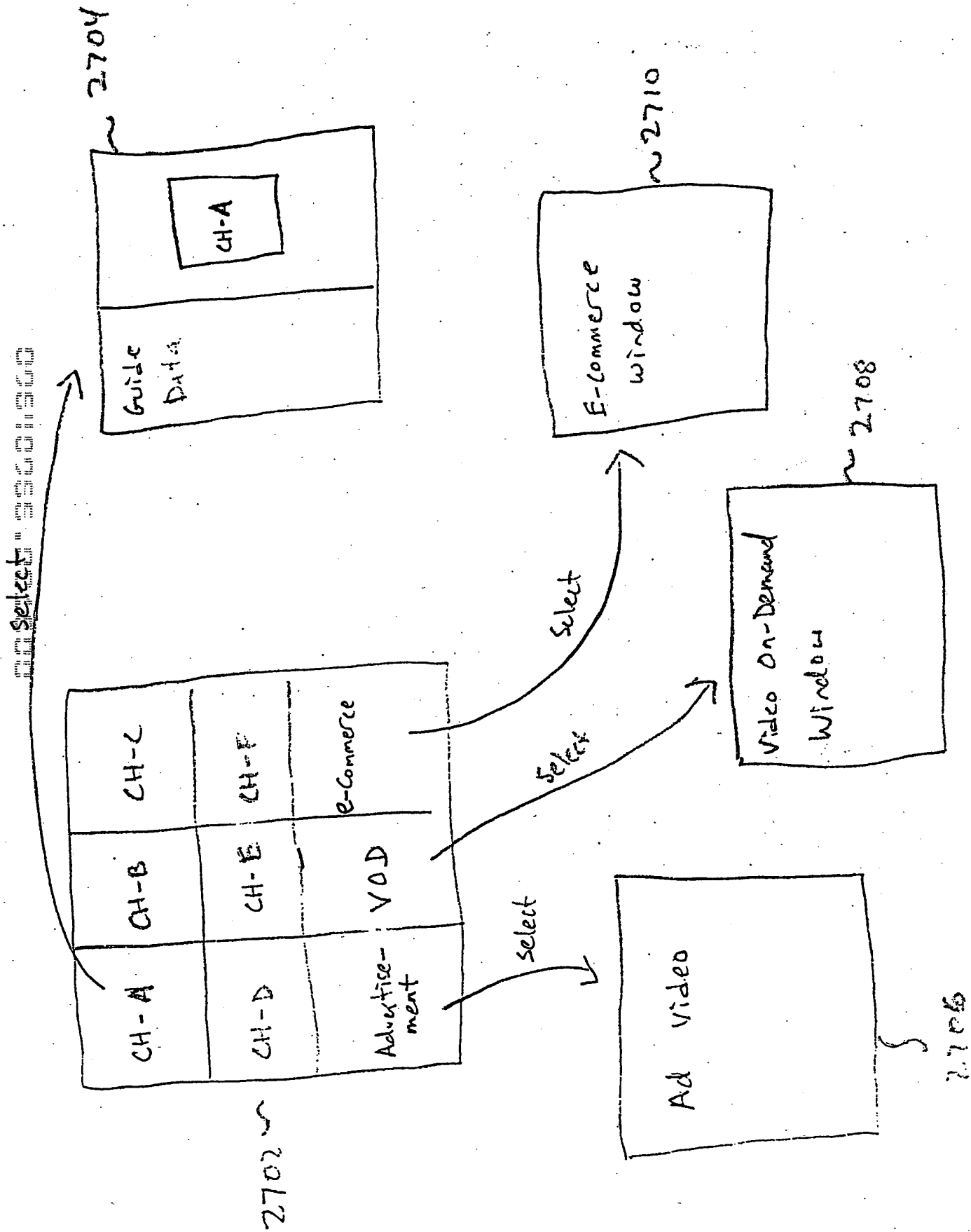


Fig. 27



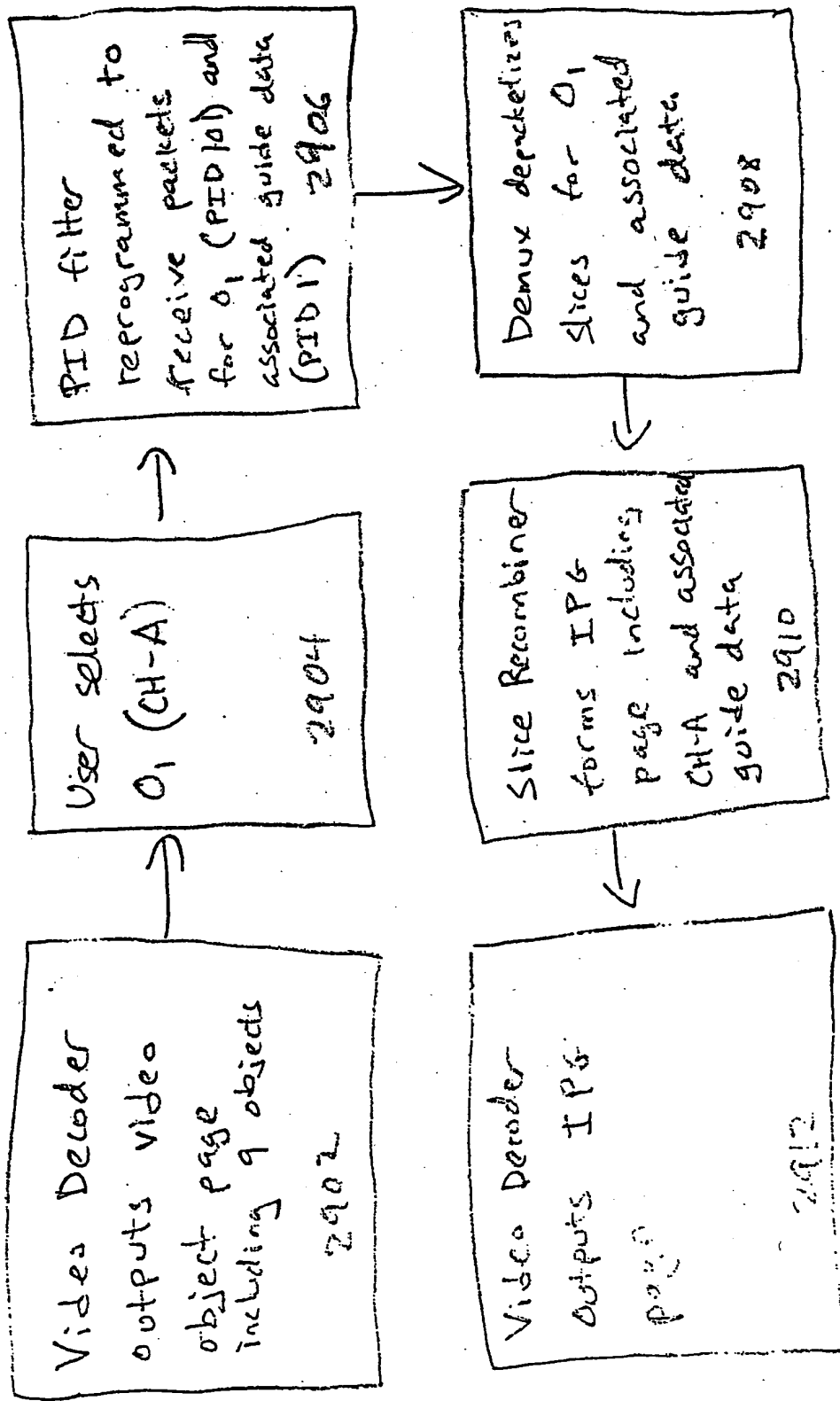
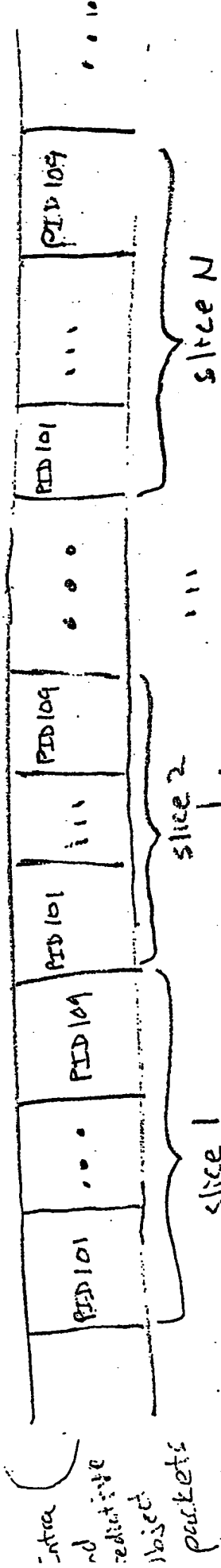
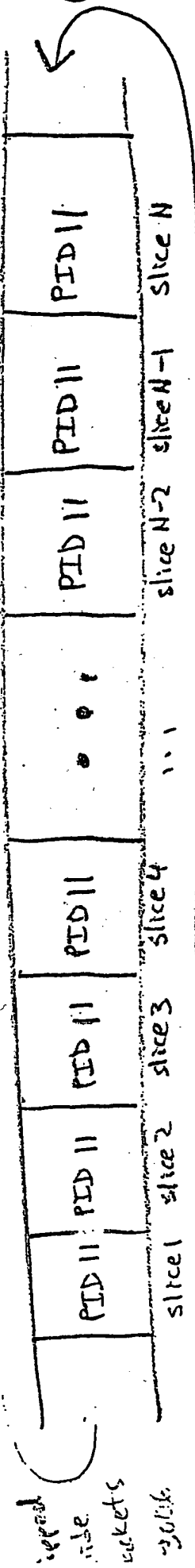
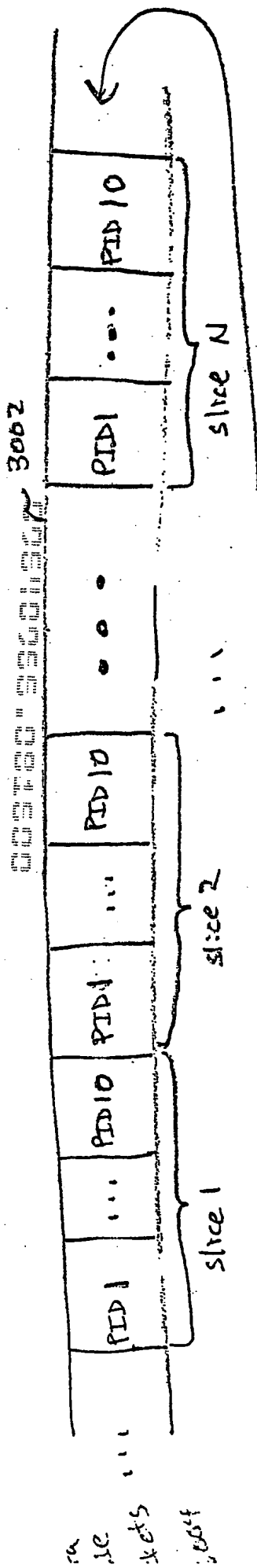


Fig. 29



filtering  
3010

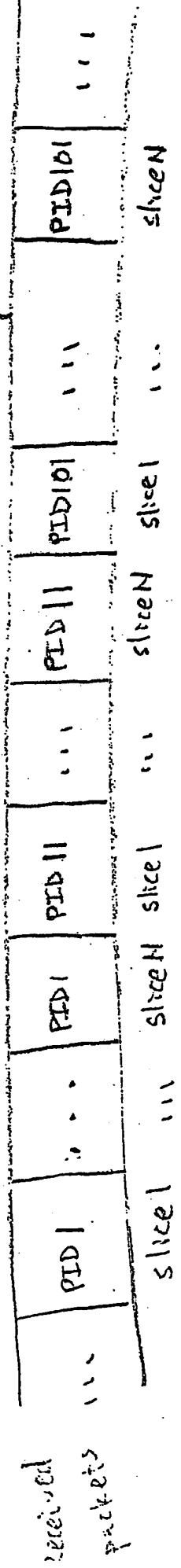
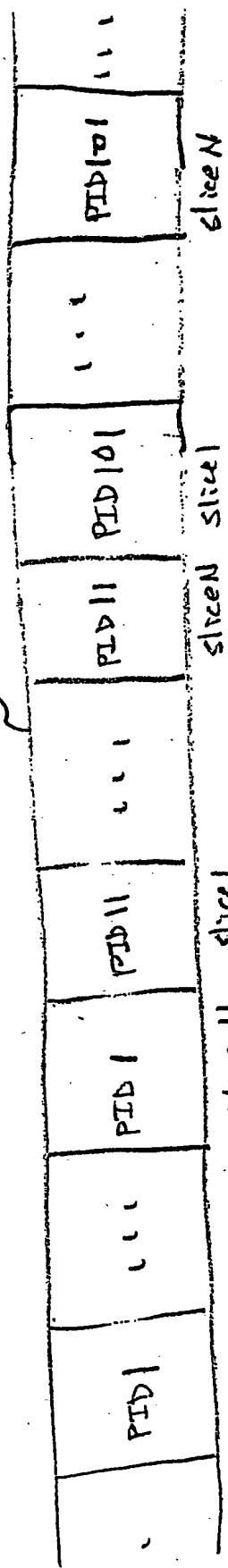


Fig. 30

3012

received  
packets



↓  
Slice  
Recombination  
3102

PID 1/s1	PID 101/s1
PID 1/s2	PID 101/s2
PID 1/s3	PID 101/s3
...	...
PID 1/SN	PID 101/SN

Intra-Coded Frame  
3104

PID 11/s1	PID 101/s1
PID 11/s2	PID 101/s2
PID 11/s3	PID 101/s3
...	...
PID 11/SN	PID 101/SN

Predictive-Coded Frames  
3106

Fig. 31

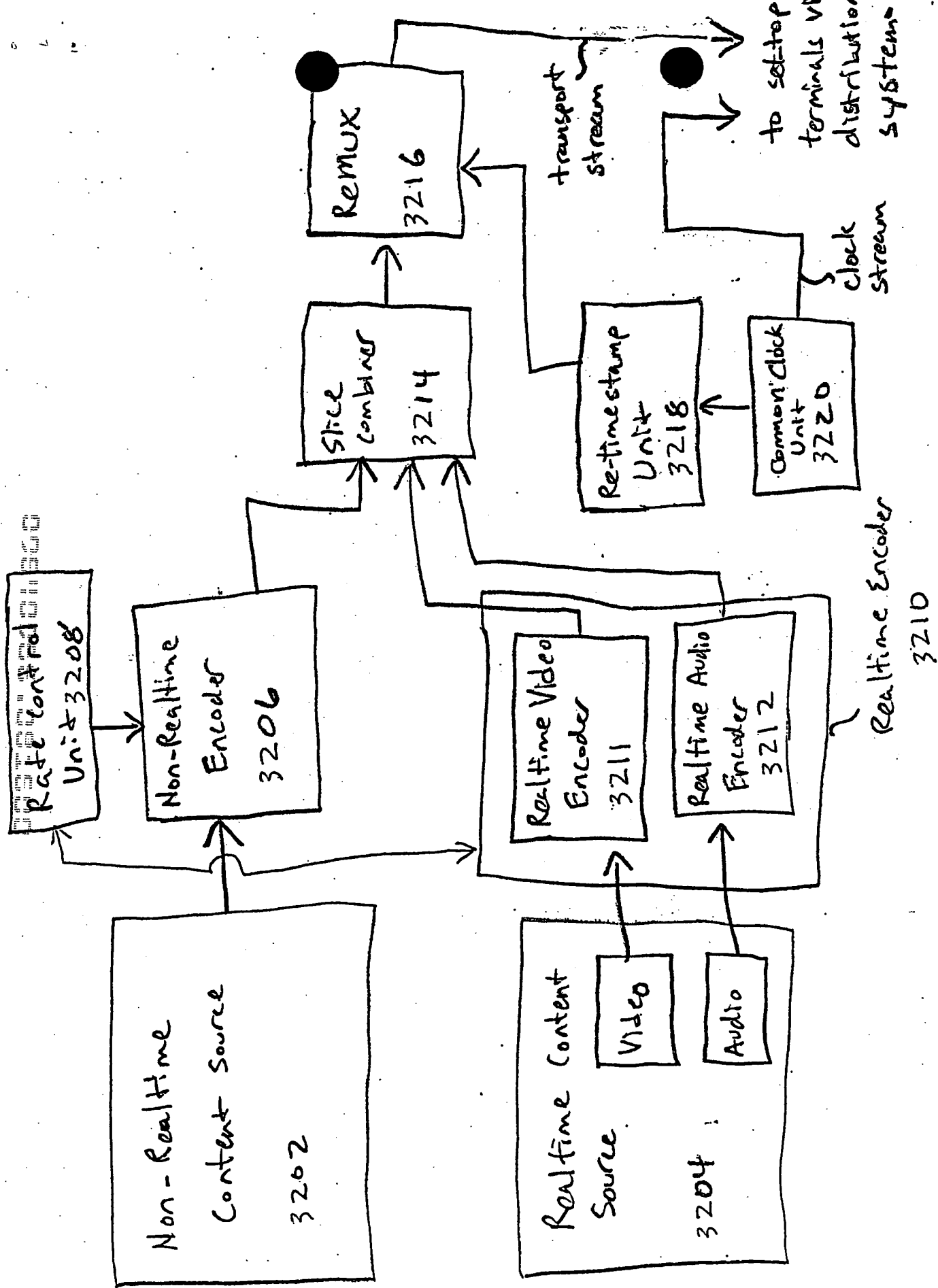


Fig. 32

Re-timestamping and Rate Control Apparatus





3304-0 3304-1 3304-2 3304-3 3304-4 3304-5 3304-6 3304-7

3402	...	3304-0 (lighter)
	...	
	...	
	...	
	...	
	...	
3404	...	3304-1 (darker)
	...	
		3304-2 (lighter)
		3304-3 (darker)
		3304-4 (lighter)
		3304-5 (darker)
		3304-6 (lighter)
		3304-7 (darker)

3301

Fig. 34

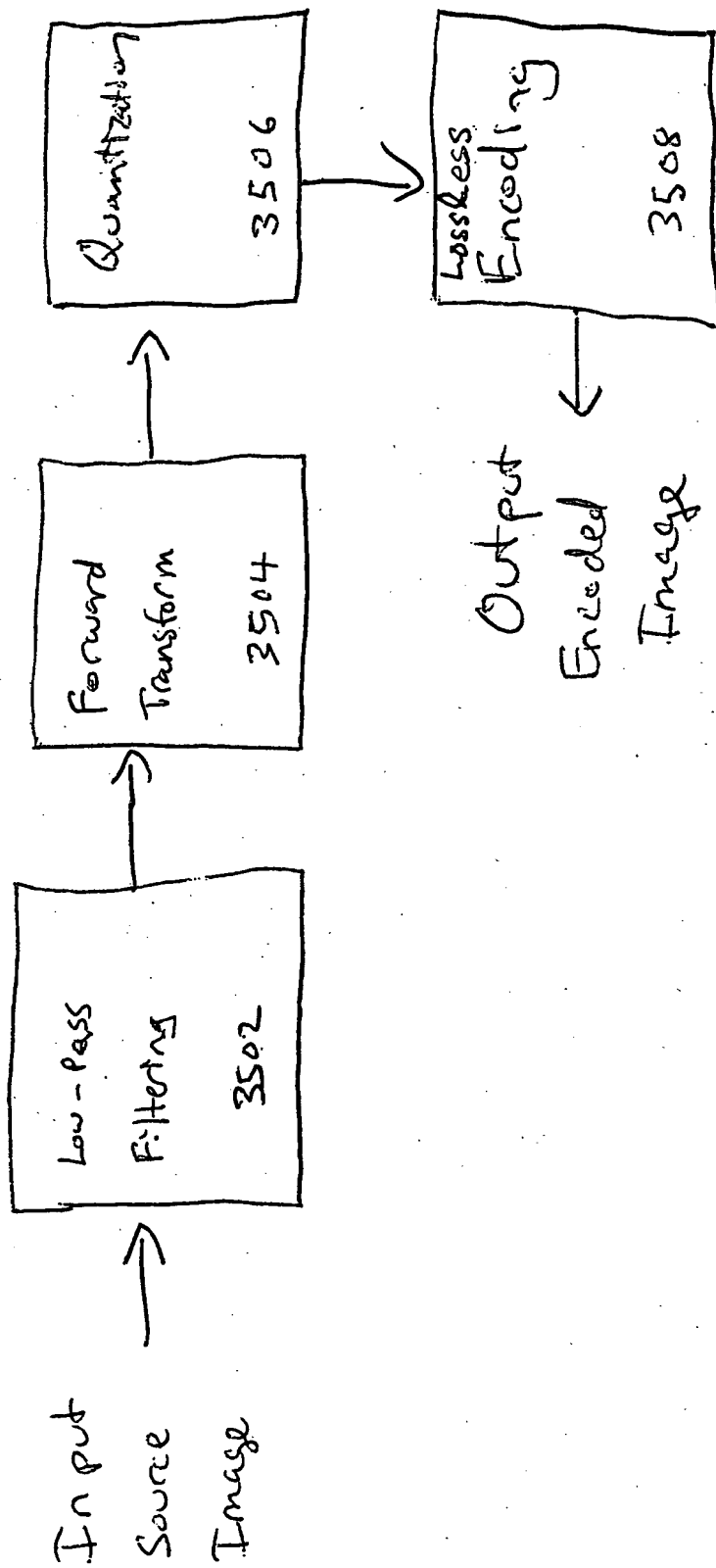


Fig. 35

3605

3600

3644

3643

3642

3641

3640

9:00 9:20 + Menu

>NHL HOCKEY>

HEMINGWAY>

TREMORS II: "...>

>MEET JOE BLACK>

BEHIND THE MUSIC>

SCARED STRAIGHT! '99>

FELICITY>

RIVERA LIVE>

WORLD WAR II IN COLOR>

DRAGNET

- 11 ESPN2
- 12 WHY
- 13 USA
- 14 STARZ
- 15 VH1
- 16 MTV
- 17 WPHL
- 18 CNBC
- 19 HIST
- 21 TVLND

Pay Per View Favorites

MOVIES kids

SPORTS MUSIC OPTIONS Weather

Thurs 8:21pm

comcast.

Thurs, May 4 9:00 - 11:00 p.m. Sports/Live

Conference Semifinal, Game 5

3650

Fig. 36

3640

3620

3615

3602

3710

3712

3714

3716

3700

3718



# Music



- ▶ 401 COUNTRY WESTERN
- 402 ROCK/POP
- 403 ADULT CONTEMPORARY
- 404 DANCE
- 405 LATIN RHYTHMS
- 406 PUNK WHITE MUSIC
- 407 ALTERNATIVE
- 408 CLOG HOPPING
- 409 THE BANJO CHANNEL
- 410 CLASSICAL
- 411 JAZZ
- 412 BIG BAND

- 413 DJEMBE MUSIC
- 414 CELTIC / IRISH
- 415 80'S SPANDEX METAL
- 416 MIDDLE-EASTERN
- 417 HITS OF THE 60'S
- 418 HITS OF THE 70'S
- 419 HITS OF THE 80'S
- 420 WIND CHIMES
- 421 SEATTLE ROCK
- 422 FREEDOM ROCK
- 423 ROLLER DISCO
- >>> MORE >>>

Title: "Truck Driving Fool With Lead Feet"  
 By: Shania Twain and Charles Manson  
 CD: 18 Gears of Love But Out Of Gas  
 On: Elektra ID# 236247

**comcast.**

372064  
 003001300

37206

3750

Fig. 37

4

4

3820b

3850

Fig. 38

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